

**2<sup>nd</sup> System-on-Chip Workshop**  
**7-11 June, CERN**

**WELCOME!**

**<https://indico.cern.ch/event/996093>**

# System-on-Chip Workshop

**This workshop is a follow-up from the 1<sup>st</sup> workshop held at CERN in June 2019**

**Motivation for this workshop:**

- **Report on progress of the various SoC projects in the experiments, in the beams sector, and in radioprotection.**
- **Review common tools and solutions available.**
- **Provide discussion on any open issues and prepare future steps.**

**For the 2019 workshop see: <https://indico.cern.ch/event/799275>**

**For the interest group use: [system-on-chip@cern.ch](mailto:system-on-chip@cern.ch)**

**For the interest group meetings see: <https://indico.cern.ch/category/11883>**

# Organising Committee

- Marc Dobson, CMS TDAQ SysAdmin
- Revital Kopeliansky, ATLAS TDAQ Phase-2 deputy TC and DCS coordination
- Frans Meijers, CMS DAQ
- Diana Scannicchio, ATLAS TDAQ SysAdmin
- Mamta Shukla, CERN-BE-CEM
- Ralf Spiwoks, CERN-EP-ESE and ATLAS L1CT
- **We wish you a warm WELCOME!**
- If you have questions on the organisation of the workshop or on your presentation, etc., please contact any of us or send an email to the organizers: [SoC-Workshop-Organisers@cern.ch](mailto:SoC-Workshop-Organisers@cern.ch)
- If your question is of general interest, please use [System-on-Chip@cern.ch](mailto:System-on-Chip@cern.ch), or the [Mattermost channel](#) set up for this conference.

# Mode of the Workshop

**Due to the uncertainties caused by the COVID-19, the workshop is entirely virtual.**

**We use Zoom: the main meetings will take place in the [SoC Workshop - Plenary](#). Additional zoom rooms are available for parallel ad-hoc discussions if needed, please check the indico page.**

**We invite you to use [Mattermost](#) for live informal discussions!**

## **Zoom code of conduct:**

**Please mute when you are not speaking.**

**The presenter should share their slides; if this is not possible, the convener can do it.**

**The presenter should switch on their camera if possible.**

**If you have a question, please wait until the end of the presentation and raise your hand.**

# Overview of the Workshop

The workshop takes place on five afternoons (CEST), please check the starting times in the agenda.

MON, June 7	TUE, June 8	WED, June 9	THU, June 10	FRI, June 11
Vendor Presentations	Overviews	Project Reports II	Tutorials	Common Issues
	Project Reports I			

- **Vendor presentations: overview of what is available today and in the (near) future**
- **Overview: ATLAS, CMS, Accelerator & Technology Sector**
- **Project Reports: different use cases of SoC**
- **Tutorials: CI/CD for Zynq-based Designs, Reliable Booting, and CI for S/W Infrastructure**
- **Common issues: system aspects and discussion**
- Please have a look at <https://indico.cern.ch/event/996093>.
- **We will not take minutes of the presentations, but of the Q&A. We will publish them in indico.**
- **All presentations and Q&A will be recorded to help in preparing the minutes – if everybody agrees. We are planning to keep and publish the recordings in indico.**

# Discussion Points

**Workshop ⇒ hope to have a lot of discussions!**

**Possible concerns and issues on use of SoCs:**

- **Hardware:**
  - **Common choice of hardware:**  
Recommend, purchase, or build a common System-on-Module (SoM)?  
Smaller solution: share experience/provide advice on a (very) small number of platforms?
- **Software:**
  - **System-level software, i.e. operating system:**  
Support for ARM in CERN Future Linux?
  - **User-level software:**  
Share software, e.g. drivers, libraries, tools?
  - **System aspects:**  
Support for integration, e.g. system administration, network management and security, boot sequence, version management of firmware and software, etc.?
  - **Long-term maintenance, i.e. hardware obsolescence and software and hardware maintainability:**  
Can System-on-Module (SoM) address this issue?

**Please let us know if you would like to raise a particular issue of common interest; we have foreseen a discussion session on Friday afternoon ...**

**Have a good workshop!**